

**IN THE CLAIMS:**

This listing of claims will replace all prior versions,  
and listings, of claims in the application:

1-113. (Cancelled)

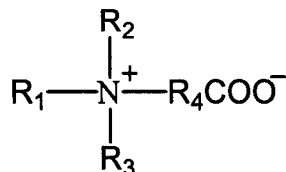
114. (Currently Amended) A method of fracturing a subterranean formation comprising the step of pumping a strongly acidic viscoelastic fluid through a wellbore and into a subterranean formation at a pressure sufficient to fracture the formation, wherein said viscoelastic fluid comprises:

- a) an aqueous medium;
- b) a surfactant selected from the group consisting of amphoteric surfactants, zwitterionic surfactants, and mixtures thereof, wherein the amount of said surfactant is from about 0.5% to about 6% by weight of said fluid;
- c) a member selected from the group consisting of organic acids, organic acid salts, inorganic salts, and combinations of one or more organic acids or organic acid salts with one or more inorganic salts; wherein said fluid exhibits the property of viscoelasticity; and
- d) an acid at a concentration sufficient to reduce the pH of said viscoelastic fluid to about 3 or less.

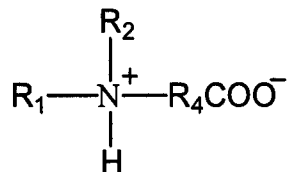
115. (Cancelled)
116. (Original) The method of claim 114 wherein said surfactant is a zwitterionic surfactant comprising a quaternary ammonium hydrophilic moiety covalently bonded with an alkyl or a hydroxyalkyl group.
117. (Original) The method of claim 114 wherein said surfactant comprises a carboxylate hydrophilic moiety.
118. (Original) The method of claim 114 wherein said member comprises an aromatic moiety selected from the group consisting of sulfonic moieties, sulfonate moieties, carboxylic moieties, and carboxylate moieties.
119. (Original) The method as claimed in claim 118 wherein said aromatic moiety is selected from the group consisting of salicylate ions and phthalate ions, hydroxynaphthalene carboxylate ions, and mixtures thereof.
120. (Original) The method of claim 114 wherein said viscoelastic fluid further comprises a particulate proppant suspended therein.
121. (Original) The method of claim 114 wherein said viscoelastic fluid further comprises an additive selected from the group consisting of corrosion inhibitors and fluid-loss additives and mixtures thereof.
122. (Original) The method of claim 114 wherein said member is present in an amount of from about

0.1% to about 30% by weight, preferably in an amount of from about 0.1% to about 8% by weight.

123. (Original) The method of claim 114 wherein said surfactant is represented by the formula (I):



or the formula (II):



wherein  $\text{R}_1$  represents alkyl, alkenyl, alkylarylalkylene, alkenylarylalkylene, alkylaminoalkylene, alkenylaminoalkylene, alkylamidoalkylene, or alkenylamidoalkylene, wherein each of said alkyl groups contains from about 14 to about 24 carbon atoms and may be branched or straight chained and saturated or unsaturated, and wherein said alkylene groups have from about 1 to about 6 carbon atoms;  $\text{R}_2$  and  $\text{R}_3$  are independently aliphatic chains having from about 1 to about 30 carbon atoms, and  $\text{R}_4$  is a hydrocarbyl radical with a chain length of about 1 to about 4.

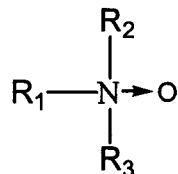
124. (Original) The method of claim 123 wherein  $\text{R}_1$  is selected from the group consisting of tetradecyl, hexadecyl, and octadecyl.

125. (Original) The method of claim 123 wherein  $R_1$  is an alkyl group derived from tallow, coco, soya bean, or rapeseed oil.
126. (Original) The method of claim 123 wherein  $R_2$  and  $R_3$  are independently alkyl, alkenyl, arylalkyl, hydroxyalkyl, carboxyalkyl, or hydroxyalkyl-polyoxyalkylene, each having from about 1 to about 10 carbon atoms and preferably are methyl, ethyl, benzyl, hydroxyethyl, hydroxypropyl, carboxymethyl, or carboxyethyl.
127. (Original) The method of claim 123 wherein  $R_1$  is  $RCONHCH_2CH_2CH_2-$  wherein  $R$  is an alkyl group containing from about 14 to about 24 carbon atoms which may be branched or straight chained and which may be saturated or unsaturated and  $R_2$  and  $R_3$  are each beta-hydroxyethyl.
128. (Original) The method of claim 127 wherein  $R_2$  is beta-carboxyethyl and  $R_4$  is ethylene.
129. (Currently Amended) The method of claim 114 wherein said surfactant is selected from the group consisting of dihydroxyethyl glycinate, alkenylamidoalkyl betaines, and amphoteric imidazoline-derived dipropionates, most preferably ~~from~~ from the group consisting of dihydroxyethyl tallow glycinate and disodium tallowiminodipropionate.
130. (Original) The method of claim 114 wherein said surfactant is an alkenylamidoalkyl betaine.
131. (Original) The method of claim 130 wherein said surfactant is oleamidopropyl betaine.

132. (Original) The method of claim 129 wherein the fluid comprises from about 0.5% to about 6% of the surfactant and from about 0.1% to about 6% of a combination of a member selected from the group consisting of p-toluene sulfonate, naphthalene sulfonate, chlorobenzoic acid, salicylic acid and phthalic acid, with a member comprising one or more water-soluble ammonium salts.
133. (Original) The method of claim 131 wherein the fluid comprises from about 0.5% to about 6% of the surfactant and from about 0.1% to about 6% of a combination of a member selected from the group consisting of p-toluene sulfonate, naphthalene sulfonate, chlorobenzoic acid, salicylic acid and phthalic acid, with a member comprising one or more water-soluble ammonium salts
134. (Previously Presented) A method of fracturing a subterranean formation comprising the step of pumping a strongly acidic viscoelastic fluid through a wellbore and into a subterranean formation at a pressure sufficient to fracture the formation, wherein said viscoelastic fluid comprises:
- a) an aqueous medium;
  - b) an amine oxide surfactant;
  - c) an anionic surfactant containing a hydrophobe having at least 14 carbon atoms;
- and

d) an acid at a concentration sufficient to reduce the pH of said viscoelastic fluid to about 3 or less.

135. (Original) The method of claim 134 wherein said amine oxide surfactant is of formula



wherein  $\text{R}_1$  represents alkyl, alkenyl, alkylarylalkylene, alkenylarylalkylene, alkylaminoalkylene, alkenylaminoalkylene, alkylamidoalkylene, or alkenylamidoalkylene, wherein each of said alkyl groups contains from about 14 to about 24 carbon atoms and may be branched or straight chained and saturated or unsaturated, and wherein said alkylene groups have from about 1 to about 6 carbon atoms; and  $\text{R}_2$  and  $\text{R}_3$  are independently aliphatic chains having from about 1 to about 30 carbon atoms.

136. (Original) The method of claim 134 wherein said anionic surfactant is an alkyl sulfate or sulfonate having alkali metal counterions or an alkyl carboxylate, wherein alkyl represents a group that contains from about 14 to about 24 carbon atoms, preferably from 16 to about 22 carbon atoms, which may be branched or straight chained and which may be saturated or unsaturated.

137. (Original) The method of claim 134 wherein the weight ratio of amine oxide surfactant to

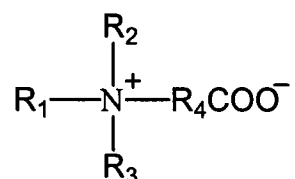
anionic surfactant ranges from about 100:1 to about 50:50.

138. (Original) The method of claim 114 wherein said viscoelastic fluid is foamed or energized by the addition of air, nitrogen or carbon dioxide.
139. (Original) The method of claim 131 wherein said viscoelastic fluid is foamed or energized by the addition of air, nitrogen or carbon dioxide.
140. (Original) The method of claim 134 wherein said viscoelastic fluid is foamed or energized by the addition of air, nitrogen or carbon dioxide.
141. (Original) A method of fracturing a subterranean formation comprising the step of pumping a viscoelastic fluid through a wellbore and into a subterranean formation at a pressure sufficient to fracture the formation, wherein said viscoelastic fluid comprises:
  - a) an aqueous medium;
  - b) a surfactant selected from the group consisting of amphoteric surfactants, zwitterionic surfactants, and mixtures thereof; and
  - c) a member selected from the group consisting of organic acids, organic acid salts, inorganic salts, and combinations of one or more organic acids or organic acid salts with one or more inorganic salts; wherein said fluid exhibits the property of viscoelasticity;

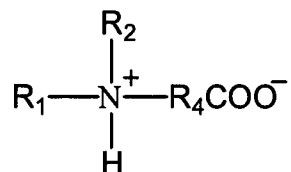
wherein said viscoelastic fluid is foamed or energized by the addition of air, nitrogen or carbon dioxide.

142. (Previously Presented) The method of claim 141 wherein said surfactant is a zwitterionic surfactant comprising a quaternary ammonium hydrophilic moiety covalently bonded with an alkyl or a hydroxyalkyl group.

143. (Previously Presented) The method of claim 141 wherein said surfactant is represented by the formula (I):



or the formula (II):



wherein  $R_1$  represents alkyl, alkenyl, alkylarylalkylene, alkenylarylalkylene, alkylaminoalkylene, alkenylaminoalkylene, alkylamidoalkylene, or alkenylamidoalkylene, wherein each of said alkyl groups contains from about 14 to about 24 carbon atoms and may be branched or straight chained and saturated or unsaturated, and wherein said alkylene groups have from about 1 to about 6 carbon atoms;  $R_2$  and  $R_3$  are independently aliphatic chains having from about 1 to about 30 carbon atoms, and  $R_4$  is



a hydrocarbyl radical with a chain length of about 1 to about 4.

144. (Previously Presented) The method of claim 141 wherein said surfactant is an alkenylamidoalkyl betaine.
145. (Previously Presented) The method of claim 144 wherein said surfactant is oleamidopropyl betaine.